# IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF NEW YORK

SEARS PETROLEUM & TRANSPORT CORP., et al.,

Plaintiffs,

Civ. Action No. 5:03-CV-1120 (DEP)

VS.

ARCHER DANIELS MIDLAND COMPANY, et al.,

Defendants.

APPEARANCES: OF COUNSEL:

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DAVID E. PEEBLES U.S. MAGISTRATE JUDGE

# **DECISION AND ORDER**

Plaintiffs Sears Petroleum & Transport Corp. and Sears Ecological Applications Co., LLC (collectively, "Sears") have commenced this action alleging patent infringement on the part of the various defendants sued. At the heart of this controversy is United States Patent No. 6,299,793 (the "793 patent"), issued in October of 2001 and assigned to Sears, as well as its offspring, United States Patent No. 6,582,622 (the "622 patent"),

issued on June 24, 2003 and similarly assigned to Sears. Both of those patents describe compositions developed principally to combat roadway icing, including as their chief ingredients a low molecular weight carbohydrate, or a sugar, and a chloride salt.

Following the issuance of a decision on July 24, 2007 construing various disputed claim terms within the '793 and '622 patents, Dkt. No. 201, the parties filed a series of motions which included, *inter alia*, an application by defendants Archer Daniels Midland Company, Deicer USA, LLC, Glacial Technologies, LLC and Minnesota Corn Processors, LLC (collectively, "ADM") for summary judgment in their favor finding, as a matter of law, that defendants' accused products, marketed under the tradename CALIBER, do not infringe any claims of the patents in suit, either literally or under the doctrine of equivalents. Dkt. No. 210.

Oral argument was conducted on May 7, 2008 with regard to the parties' various cross-motions. During that motion hearing I rendered a bench decision disposing of the majority of the pending motions, including the portion of ADM's non-infringement motion bearing upon the question of literal infringement, but reserved decision with regard to the remaining issues presented by that motion addressing infringement of certain of the

'793 and '622 patent claims under the doctrine of equivalents. Having carefully reviewed the record now before the court, I conclude that plaintiffs are estopped from claiming infringement of the claims in issue under the doctrine of equivalents, as a result of amendments made to the application giving rise to the two patents during the course of patent prosecution to avoid disallowance of those claims as vague and indefinite.

#### I. BACKGROUND<sup>1</sup>

In response to a perceived need within the snow and ice removal industry for an improved roadway deicing agent lacking in certain undesirable characteristics inherent in previously available commercial products, inventors Robert A. Hartley and David H. Wood developed a deicing formulation containing one or more freezing point depressants, to be mixed and included in an aqueous solution. The two then set about initiating the patent prosecution process by the filing of a provisional patent application on January 7, 1998, disclosing the concept of using a combination of three key ingredients in a refined form to overcome the problems associated with earlier deicing formulations. Those components

Portions of the following chronology are adopted from my decision in *Cargill, Inc. v. Sears Petroleum & Transport Corp.*, 334 F. Supp. 2d 197 (N.D.N.Y. 2004), familiarity with which is presumed.

were described in the provisional application as consisting of a freezing point depressant, consisting of "any suitable inorganic or organic material and mixtures thereof", which could include either a chloride and/or an organic substance such as, notably, sugars (hexoses, saccharides) and an array of other potentially suitable components; a film former, comprised of "any suitable water soluble or water resoluble material"; and water. While the avowed function of the film former referenced in that application is to immobilize the freezing point depressant to prevent runoff from the road surface to which it is applied, it is also described as "itself a freezing point depressant" with the resulting effect of "further improv[ing] the efficiency of ice melting and aid[ing] in the reduction of metal corrosion[.]"

Based upon testing performed in or about December of 1998, inventors Wood and Hartley discovered the existence of a synergistic effect upon freezing point reduction resulting from combining certain low molecular weight carbohydrates and chloride salts. That discovery led to the filing with the United States Patent and Trademark Office ("PTO") of a non-provisional application on January 4, 1999, disclosing the invention in greater detail to include as key ingredients an inorganic freezing point depressant, such as a chloride salt, a low molecular weight carbohydrate

and, in certain instances, a thickener.2

The filing of the CIP application was met with the issuance on May 18, 2001 of a rejection by PTO patent examiner Anthony Green. Included within the notice of that rejection was examiner Green's stated finding that one of the claims was vague and indefinite since it did not differentiate between the carbohydrate component and the thickener element. In response to that rejection, the inventors revised both the specification and the claims in which thickeners were included, asserting in remarks to the examiner that the thickener claims "now recite that the thickener is selected from the group consisting of cellulose derivative and carbohydrates, and recites [sic] the specific molecular weight range for both of these components which clearly distinguish them by molecular weight from the carbohydrate component now specifically recited as to its type, and in the range of 180 to 1000." Following the submission of this amendment, the '793 patent was issued on October 9, 2001.

The exchange between the inventors and the patent examiner regarding the inherent indefiniteness presented in the initial application led

The 1999 application, which was ultimately abandoned, was replaced by a continuation-in-part ("CIP") application, filed on January 5, 2001 and ultimately resulting in the issuance of the '793 patent.

me to construe the term "thickener", for purposes of claims four and six through eight of the '793 patent, to mean "a substance or material, whether inherent in or separately added to a composition, separate from the low molecular weight carbohydrate and chloride salt, which consists of either 1) a cellulose derivative with molecular weights of about 60,000 to 1,000,000 or 2) a carbohydrate with molecular weights of about 10,000 to 50,000, which causes an increase in the composition's viscosity." I have since clarified that this definition applies with equal force to the '622 patent, a member of the '793 patent family.

In its motion ADM has challenged plaintiffs' claims of infringement of claims 4 through 6 and 8 of the '793 patent and claims 5 through 8 of the '622 patent (collectively, the "thickener claims"), all of which disclose the inclusion of a thickener, noting that the accused CALIBER products do not contain such a substance. Sears has since responded that infringement of those claims could be found by a jury under the doctrine of equivalents, based principally upon the opinions of its expert witness, Dr. E. Bruce Nauman, to the effect that the CALIBER products contain carbohydrates falling outside of the low molecular weight ranges specified in the patents, and which serve to increase the viscosity of the aqueous solution, thus

constituting an inherent thickener. ADM counters that Dr. Nauman's analysis is incomplete and could not form the basis of a legally defensible finding of infringement, and further argues that in any event prosecution history estoppel bars Sears from arguing equivalents based upon the presence of carbohydrates below the molecular weight of 10,000.

### II. <u>DISCUSSION</u>

# A. <u>Summary Judgment Standard</u>

Summary judgment is governed by Rule 56 of the Federal Rules of Civil Procedure. Under that provision, summary judgment is warranted when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits . . . show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c); see Celotex Corp. v. Catrett, 477 U.S. 317, 322, 106 S. Ct. 2548, 2552 (1986); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247, 106 S. Ct. 2505, 2509-10 (1986); Security Ins. Co. of Hartford v. Old Dominion Freight Line, Inc., 391 F.3d 77, 82-83 (2d Cir. 2004). A fact is "material", for purposes of this inquiry, if it "might affect the outcome of the suit under the governing law." Anderson, 477 U.S. at 248, 106 S. Ct. at 2510; see also

Jeffreys v. City of New York, 426 F.3d 549, 553 (2d Cir. 2005) (citing Anderson). A material fact is genuinely in dispute "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party."

Anderson, 477 U.S. at 248, 106 S. Ct. at 2510.

When summary judgment is sought, the moving party bears an initial burden of demonstrating that there is no genuine dispute of material fact to be decided with respect to any essential element of the claim in issue; the failure to meet this burden warrants denial of the motion. *Anderson*, 477 U.S. at 250 n.4, 106 S. Ct. at 2511 n.4; *Security Ins.*, 391 F.3d at 83. In the event this initial burden is met, the opposing party must show, through affidavits or otherwise, that there is a material issue of fact for trial. Fed. R. Civ. P. 56(e); *Celotex*, 477 U.S. at 324, 106 S. Ct. at 2553; *Anderson*, 477 U.S. at 250, 106 S. Ct. at 2511.

When deciding a summary judgment motion, a court must resolve any ambiguities, and draw all inferences from the facts, in a light most favorable to the nonmoving party. *Jeffreys*, 426 F.3d at 553; *Wright v. Coughlin*, 132 F.3d 133, 137-38 (2d Cir. 1998). Summary judgment is inappropriate where "review of the record reveals sufficient evidence for a rational trier of fact to find in the [non-movant's] favor." *Treglia v. Town of* 

Manlius, 313 F.3d 713, 719 (2d Cir. 2002) (citation omitted); see also Anderson, 477 U.S. at 250, 106 S. Ct. at 2511 (summary judgment is appropriate only when "there can be but one reasonable conclusion as to the verdict").

## B. Infringement Under The Doctrine Of Equivalents Generally

Acknowledging that the CALIBER products do not contain a thickener, as defined by the court under the '793 and '622 patents, Sears argues that direct infringement of the thickener claims of the two patents can nonetheless be proven through the doctrine of equivalents. In their motion, ADM counters that the record does not contain evidence upon which a reasonable factfinder could conclude that the thickener claims of the two patents in suit are infringed under the doctrine of equivalents, and further maintains that in any event the argument is precluded by prosecution history estoppel.

Infringement of a patent claim may occur in one of two ways. Literal infringement exists when each limitation contained within a particular patent claim is present in an accused product. *Abraxis Bioscience, Inc. v. Mayne Pharma (USA) Inc.*, 467 F.3d 1370, 1378 (Fed. Cir. 2006); *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1310

(Fed. Cir. 2005). In the absence of a finding of such literal infringement, liability may attach through application of the doctrine of equivalents, under which an accused product which does not meet every element of a particular claim may nonetheless be found to be its equivalent because the differences between the two are insubstantial, when viewed from the standpoint of one of ordinary skill in the art. Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 520 U.S. 17, 39-40, 117 S. Ct. 1040, 1054 (1997); Abraxis Bioscience, 467 F.3d at 1379; Overhead Door Corp. v. Chamberlain Group, Inc., 194 F.3d 1261, 1269 (Fed. Cir. 1999). The requisite equivalence can be established in appropriate instances where an element of the accused product differs only insubstantially from a claimed limitation "and it performs substantially the same function in substantially the same way to achieve substantially the same result."3

In its reaffirmation of the doctrine in *Warner-Jenkinson* the Supreme Court deferred to the Federal Circuit, with its "special expertise" in the area, for "refine[ment] [of] the formulation of the test for equivalence in the orderly course of case-by-case determinations[.]" 520 U.S. at 40, 117 S. Ct. at 1054. While this quoted excerpt from the Federal Circuit's decision in *Wright Medical*, one of the first Federal Circuit doctrine of equivalents decisions to follow *Warner-Jenkinson*, with its use of the conjunction "and," could be construed as requiring *both* a showing of insubstantiality of any differences *and* compliance with the "function-way-result" catechism, in order to establish equivalence, both the Court's decision in *Warner-Jenkinson* and subsequent decisions from the Federal Circuit evince an intention to treat insubstantiality of differences as the cornerstone of the doctrine of equivalents, with satisfaction of the function-way-result test being regarded as but one way to make that required showing. *See generally Warner-Jenkinson*, 520 U.S. at 39-40, 117 S. Ct. at 1054; *Overhead* 

Wright Med.Tech., Inc. v. Osteonics Corp., 122 F.3d 1440, 1444 (Fed. Cir. 1997) (citations omitted); Abraxis Bioscience, 467 F.3d at 1379. Under the doctrine, the test for equivalence is an objective one, to be applied on an element-by-element basis with respect to any limitation for which literal infringement is not proven. Warner-Jenkinson, 520 U.S. at 40, 117 S. Ct. at 1054; Overhead Door, 194 F.3d at 1269. Direct infringement, whether literal or through the doctrine of equivalents, must be proven by the patentee by a preponderance of the evidence. Cross Medical Prods., 424 F.3d at 1310.

When a survey of the record before a court discloses the lack of any genuinely disputed issues of material fact, the entry of summary judgment in favor of an accused infringer on the issue of infringement is appropriate, regardless of whether the claimed infringement is literal, or instead resort is made to the doctrine of equivalents. See PC Connectors Solutions LLC v. SmartDisk Corp., 406 F.3d 1359, 1364 (Fed. Cir. 2005). In a literal infringement case, summary judgment for the accused infringer is properly

*Door*, 194 F.3d at 1269-70. Both the Supreme Court and the Federal Circuit have acknowledged, moreover, that the function-way-result test is more accurate as a barometer of equivalency when the patent in suit describes mechanical elements and "often provides a poor framework for analyzing other products or processes." *Warner-Jenkinson*, 520 U.S. at 39-40,117 S. Ct. at 1054; see also Overhead Door, 194 F.3d at 1269-70.

entered when no reasonable jury could find that every limitation recited within a patent claim, as construed by the court, is contained within an accused device. *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998); *Sienna, LLC v. CVS Corp.*, No. 06 Civ 3364, 2007 WL 13102, at \*4 (S.D.N.Y. Jan. 3, 2007) (citing, *inter alia, PC Connectors Solutions*). Similarly, summary judgment may be entered against a patentee claiming the benefit of the doctrine of equivalents when, based upon the evidence before the court, considered in a light most favorable to the patent holder, the court is convinced no reasonable factfinder could conclude that the two elements being compared are equivalent. *Warner-Jenkinson*, 520 U.S. at 39, n. 8, 117 S. Ct. at 1053, n.8; *Bai*, 160 F.3d at 1353-54.

When contemplating the entry of summary judgment in circumstances such as those now presented, the court must bear in mind that whether direct infringement has occurred based upon application of the doctrine of equivalents presents an issue of fact. *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1251 (Fed. Cir. 2000). Moreover, "[i]nfringement under the doctrine of equivalents requires an intensely factual inquiry." *Vehicular Technologies Corp. v. Titan Wheel Int'l Inc.*, 212 F.3d 1377, 1381 (Fed. Cir. 2000); see also Leggett & Platt, Inc. v.

Hickory Springs Mfg. Co., 285 F.3d 1353, 1357 (Fed. Cir. 2002) (quoting Vehicular Technologies Corp.). For this reason, the Federal Circuit has characterized the summary judgment standard, in the context of the doctrine of equivalents, as "lofty", Overhead Door, 194 F.3d at 1269, and has observed that "[because] infringement under the doctrine of equivalents often presents difficult factual determinations, a summary conclusion that a reasonable jury could not find infringement is often illusive." Leggett & Platt, 285 F.3d at 1360 (citations omitted).

In his expert report, dated September 26, 2007, Sears' expert, Dr. Nauman, opines that the thickener claims of the '793 and '622 patent are infringed based on the doctrine of equivalents. To support that position, Dr. Nauman notes his observation that the viscosity of the CALIBER products is increased as a result of the presence of inherent molecular weight carbohydrates above 1638, and that the percentages of those carbohydrates fall within the ranges specified in the thickener claims. While Professor Nauman's report is less than comprehensively detailed in this regard, and does not provide a great deal of elaboration tying his findings to the function/way/result doctrine of equivalents test, applying the relevant summary judgment standard and resolving all ambiguities

and drawing inferences most favorably to the plaintiffs, I am unable to conclude that no reasonable jury could find infringement of the thickener claims under the doctrine of equivalents, absent the finding of a basis to determine that plaintiffs are barred from resorting to the doctrine to establish infringement.

# C. <u>Prosecution History Estoppel</u>

In a case where infringement is alleged under the doctrine of equivalents, a party may be precluded by virtue of a finding of prosecution history estoppel from claiming such infringement. *See Lucent Technologies. Inc. v. Gateway, Inc.*, \_\_\_ F.3d \_\_\_, 2008 WL 1970225, at \*15 (Fed. Cir. May 8, 2008). Prosecution history estoppel, which as a principle is eminently logical, "requires that the claims of a patent be interpreted in light of the proceedings in the [PTO] during the application process." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 733, 122 S. Ct. 1831, 1838 (2002). The doctrine acts as a safeguard against expansion of a patent claim through the use of the doctrine of equivalents into areas which have been surrendered during the course of patent prosecution. *See id.* at 733-34, 122 S. Ct. at 1838.

While by no means heralding the advent of the doctrine, the

Supreme Court's decision in *Festo* provided significant illumination regarding the doctrine and its breadth. See Festo, 535 U.S. 722, 122 S. Ct. 1831. Significantly, while many pre-Festo cases recognized applicability of the limitation inherent in prosecution history estoppel to claims of infringement under the doctrine of equivalents, the vast majority of those cases involved amendments calculated to distance patent claims from prior art. See, e.g., Warner-Jenkinson, 520 U.S. at 30-32 & n.5, 117 S. Ct. at 1050 & n.5 (citing, inter alia, Exhibit Supply Co. v. Ace Patents Corp., 315 U.S. 126, 62 S. Ct. 513 (1942) and Keystone Driller Co. v. Northwest Eng'g Corp., 294 U.S. 42, 55 S. Ct. 262 (1935)); see also Festo, 535 U.S. at 735, 122 S. Ct. 1839 (citing cases). The question of whether prosecution history estoppel is limited to such a circumstance, or instead has broader applicability, was squarely presented to the Court in Festo. Addressing that issue, in Festo the Court concluded that prosecution history estoppel applies in the case of any "narrowing amendment made to satisfy any requirement of the Patent Act. . . . " Festo, 535 U.S. at 736, 122 S. Ct. 1839; see also Regents of the Univ. of California v. Dakocytomation California, Inc., 517 F.3d 1364, 1376 (Fed. Cir. 2008).

The record now before the court firmly establishes that in response to the patent examiner's determination that the thickener claims of the patent application leading to the issuance of the '793 patent were vague and indefinite, and thus could not satisfy the requirements of the Patent Act, see 35 U.S.C. § 112, a narrowing amendment was made.

Accordingly, a rebuttable presumption arises to the effect that the inclusion of thickeners in the molecular weight ambit outside of the specified ranges including, pertinently, carbohydrates under the molecular weight of 10,000, was surrendered. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 344 F.3d 1359, 1367 (Fed. Cir. 2003).

Once recognized, the presumption of surrender is nonetheless subject to rebuttal. *Univ. of California*, 517 F.3d at 1376; *see also Honeywell Int'l Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1140 (Fed. Cir. 2004); *Festo*, 344 F.3d at 1368. Whether a basis for finding rebuttal has been established presents a question of law for the court, and not a jury. *Festo*, 344 F.3d at 1368; *see also Biagro Western Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1305 (Fed. Cir. 2005). The burden of establishing that abandonment through prosecution history estoppel has not occurred rests with the patentee. *Biagro*, 423 F. 3d at 1305.

There are essentially three ways in which the presumption of narrowing through prosecution history estoppel can be overcome, including based upon a showing that 1) the alleged equivalent was unforeseeable at the time of the narrowing amendment; 2) the reason for the narrowing amendment bore no more than a tangential relation to the equivalent in issue; or 3) there is some other reason suggesting that the patentee could not have reasonably been expected to describe the equivalent. *Festo*, 344 F.3d at 1368 (citing *Festo*, 535 U.S. at 740-41, 122 S. Ct. at 1842); *Biagro*, 423 F.3d at 1305. None of these exceptions applies in this case.

Not only was the possibility of molecular weight carbohydrates below the range of 10,000 acting as an equivalent of thickeners foreseeable, it indeed was known, particularly as evidenced by the fact that the CALIBER product was available for testing at the time of the narrowing amendment, and additionally since those carbohydrates are well-known components of the commercial sources of the low molecular carbohydrates specified in the invention. Given the circumstances and the history of the '793 patent prosecution, it cannot be said that the narrowing bore little relationship to the equivalent in question. The very

purpose of the amendment was to define the weight ranges of cellulose derivatives and carbohydrates for use as thickeners in order to eliminate the examiner's indefiniteness concerns. Since the CALIBER equivalents now urged by Sears as equivalents include carbohydrates outside of the specified range, the rationale for amendment bore significantly more than a tangential relationship to the accused equivalent. *See Biagro*, 423 F.3d at 1306. Lastly, there is no reason to suggest that the inventors could not have described the intermediate molecular weight carbohydrates as potential equivalents in their application.

In sum, the record reflects that in arguing for a finding of infringement of the thickener claims of the '793 patents, plaintiffs are endeavoring to recover subject matter voluntarily abandoned during the course of the patent prosecution. As was stated by ADM, while the patentees may not have had to relinquish the intermediate carbohydrate range as potential thickeners in order to satisfy the examiner, the fact that they did so now estops them from relying on the doctrine of equivalents to recapture those intermediate carbohydrates as potential inherent thickeners.

### III. SUMMARY AND ORDER

The court has construed the thickeners disclosed in certain of the claims of the '793 and '622 patents, for purposes of this case, as being limited to a specific weight range of either a cellulose derivative or a carbohydrate. Conceding that the defendants' accused CALIBER products do not contain thickeners meeting those criteria, Sears nonetheless argues that defendants' direct infringement of the thickener claims within those patents can be established under the doctrine of equivalents. While the record contains evidence from which a reasonable jury could find infringement under that theory, by virtue of their amendment to cure patentability concerns of the patent examiner during the course of patent prosecution the inventors have relinquished areas outside of the specified thickener weight ranges, and may not now attempt to recapture the lost territory by invoking the doctrine of equivalents without running afoul of the teachings of *Festo* and its progeny. Accordingly, it is hereby

ORDERED that the ADM defendants' motion for summary judgment dismissing plaintiffs' claims of patent infringement as against all defendants arising under claims 4 through 6 and 8 of the '793 patent, and

claims 5 through 8 of the '622 patent, is GRANTED, and those claims are hereby DISMISSED.

Dated: May 20, 2008

Syracuse, NY

David E. Peebles

U.S. Magistrate Judge